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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/961,055	09/24/2001	Masaaki Hiroki	740756-2367	6718

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EXAMINER

PARKER, KENNETH

ART UNIT	PAPER NUMBER
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2871

DATE MAILED: 07/21/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/961,055

Applicant(s)

HIROKI ET AL

Examiner

Kenneth A Parker

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 02 May 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) 1,3 and 5 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) 2,4 and 6-23 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☒ Certified copies of the priority documents have been received in Application No. 07/837394.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2-3.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Specification***

Applicant is reminded of the proper content of an abstract of the disclosure.

A patent abstract is a concise statement of the technical disclosure of the patent and should include that which is new in the art to which the invention pertains. If the patent is of a basic nature, the entire technical disclosure may be new in the art, and the abstract should be directed to the entire disclosure. If the patent is in the nature of an improvement in an old apparatus, process, product, or composition, the abstract should include the technical disclosure of the improvement. In certain patents, particularly those for compounds and compositions, wherein the process for making and/or the use thereof are not obvious, the abstract should set forth a process for making and/or use thereof. If the new technical disclosure involves modifications or alternatives, the abstract should mention by way of example the preferred modification or alternative.

The abstract should not refer to purported merits or speculative applications of the invention and should not compare the invention with the prior art.

Where applicable, the abstract should include the following:

- (1) if a machine or apparatus, its organization and operation;
- (2) if an article, its method of making;
- (3) if a chemical compound, its identity and use;
- (4) if a mixture, its ingredients;
- (5) if a process, the steps.

Extensive mechanical and design details of apparatus should not be given.

The abstract of the disclosure is objected to because it does not pertain to the claimed invention. Correction is required. See MPEP § 608.01(b).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and

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the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

**Claims 2, 4, 6-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wakai et al 5003356 in view of Yoshino 5358810 and Yoshino 5042920 and Bahadur pgs 178-181 and 421-423**

Wakai et al shows (figure 7) a transparent substrate 101 with a TFT (elements 102-107) with a channel region, source and drain regions with said channel region extending therebetween, a gate insulating film adjacent to said channel region, and a gate electrode adjacent to said gate insulating film (all TFTS have these); with an organic leveling layer 108a above it (polyimide listed as one of the choices of materials), a transparent insulator 108b above that, a pixel electrode 110 above that and a transparent electrode 115 on the opposite substrate 116 (shown in figure 5).

15. The electro-optical device according to any one of claims 1 to 11 wherein said pixel electrode is transparent. Re claim 15-16- the common electrode 115 and pixel

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electrodes 110 are transparent. Regarding claim 19- one of ordinary skill would have recognized that the gap between the substrates of figure 5 was for liquid crystal- so the feature is inherent. Regarding claim 23, the opposite and pixel electrodes oppose one another (the opposite opposes all of the pixel electrodes).

Lacking from the device of the primary reference is any reference to the color filter and black matrix on the opposite substrate between the electrode and substrate (location relevant to some of the claims). Yoshino discloses a flattened opposite substrate with a leveling layer over color filters which are over an organic dye containing black matrix, and which has flattening layer over color filters which are separated by an organic black matrix. Yoshino discloses that this type device has the benefit of being easily formed (abstract '810), and being reliable and easily formed (col. 4, lines 55-60 '920). Therefore it would have been obvious to one of ordinary skill, in the device of Wakai, to employ a color filter substrate of either Yoshino reference for the abovementioned advantages. Further, Bahadur teaches that the black matrix of a dyed organic material was one of the conventional types. The dyed type black matrix was well known for being less reflective and cheaper than the metallic counterparts, and would have been obvious to one of ordinary skill for that reason.

Claims 12-13 have the common electrode on the opposite substrate leveling film- as the Yoshino reference add the leveling film on the opposite substrate, the feature met by the combined references.

Regarding claim 14- lacking is the thin film transistor being top-gate type. Top gate was well known for the benefit of enabling easy self alignment, which had the

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benefit of low cost. Therefore it would have been obvious to one of ordinary skill, in the device of Wakai, to employ a top gate transistor in place of the bottom gate for the benefit of easy self alignment.

Regarding claim 17 and 22- further lacking is that the black stripes comprises polyimide. Bahadur teaches that it was well known at the time to make dyed color filters (including dyed black matrixes) out of polyimide. The known benefit was that it did not require a separate layer to be patterned (the layer itself could be patterned). Therefore, it would have been obvious to one of ordinary skill, in the device of Wakai et al as modified above, to employ polyimide as the dye holding layer because it did not require a separate patterning layer (a separate polyimide layer).

The electro-optical display device beign a television is a limitation of the preamble, which is evaluated as intended use and met by any device capable of providing the claimed use. As the device of Wakai or Wakai as modified above can be used to display television images, this limitation is met by the reference or reference as modified above.

Regarding claims 20-21, the reference Wakai et al and the secondary reference Yoshino '920 explicitly list polyimide as one of the choices for the layer (making the polyimide met for the first, but not second leveling layer). Polyimide was well known for its photo-imagability, low cost and good smoothing properties. Therefore it would have been obvious to one of ordinary skill to employ the polyimide alternative listed for the well known benefits of photo-imagability, low cost and good smoothing properties.

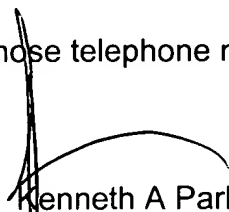
***Election/Restrictions***

Applicant's election without traverse of group III in Paper No. 5 is acknowledged.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kenneth A Parker whose telephone number is 703-305-6202. The examiner can normally be reached on 9:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert H. Kim can be reached on 305-3492. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-7722 for regular communications and 703-308-7722 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 308-0956.

  
Kenneth A Parker  
Primary Examiner  
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July 14, 2003